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Sampling in an Archival Framework:

Mathoms and Manuscripts

Margery N. Sly

In The Lord of the Rings, J.R.R. Tolkien describes the Mathom House at Michel Delving in the Western part of the Shire. A Mathom is something that a person does not want to keep but cannot bear to throw away. 1 Archivists may often feel that they preside over such a house. They are trained to preserve records of permanent historical value--to prevent their destruction. However, much of the masses of records produced, especially in the twentieth century, may not be of permanent historical value, and archivists need appraisal techniques which will aid them in dealing with this situation and allay their fears that valuable material is being discarded. Appraisal is very much a creation of the twentieth century with its abundance of records, as are some of the techniques developed to deal with those records.

Sampling is one option that any archivist who makes appraisal decisions should consider. The technique can be used as a means to reduce record volume after appraisal or as an appraisal method, applied to determine whether records should be retained, weeded, or sampled for retention. Often, however, an archivist has a limited background in statistics and a knowledge of that somewhat controversial subject--sampling--which comes from a cursory reading of the less than extensive literature on the subject. The literature itself often only contributes to the general confusion surrounding sampling and worries some archivists all the more. They are able to produce a variety of reasons not to consider sampling--all legitimate. These include lack of time, money, or staff, uncertainty as to what future generations of researchers will want, fear of

discarding valuable material, and worry that statistics is a discipline best left to specialists.

Many of the questions and problems archivists raise about sampling can be answered when the technique is viewed in an archival framework. Statistical applications have their place, but not at the expense of professional, archival validity. Even archivists who are dealing with smaller manuscript collections may find applications for simple sampling techniques and should be aware of the possibilities use of these techniques present. Every archivist should be able to identify those records which are likely candidates and, possibly with the help of a statistical consultant, carry out a sampling project.

Sampling of any type results from or is a tool for making appraisal decisions. In archival literature, there appear to be two identifiable applications of sampling. The first is sampling to reduce bulk. In this type, the records--a mass mailing on a particular issue directed towards a senator, for example--are homogeneous or display other characteristics which identify them as sampling candidates to appraisal archivists. Examples of this application can be found in articles by Larry Steck and Francis Blouin, Eleanor McKay, and other archivists. 2 The second application is sampling for appraisal purposes, which can be viewed as a survey technique and is used when typical appraisal questions cannot be answered using traditional methods. Sampling of this type was used in the Massachusetts Superior Court and the Federal Bureau of Investigation appraisal projects. 3

Dennis Affholter, a statistician, has stated that all archivists, unwittingly or otherwise, participate in some form of sampling and backs up this statement by listing three basic types: accidental or haphazard, subjective or judgmental, and probability. 4 His "simple typology" has both the effect of reassuring archivists that, as they are doing it already, sampling must be all right and of muddying the terminological waters by injecting more confusion into what is already an archivist's

nightmare. In the hope that this easily understood typology will aid archivists in investigating sampling options, further definition follows.

Haphazard or accidental samples are selections consisting of what remains, is available, or is accidentally discovered. This form could be equated to the Darwinian theory of natural selection or survival of the luckiest. The archivist is not operating with a coherent collection policy, in many cases, and just takes what omes. Affholter implies that, in the face of storage constraints or other problems, haphazard selection such as choosing "the nearest box" occurs. 5 Responsible archivists should cringe at this description and hope that their colleagues, when faced with this situation, will at the very least apply Affholter's second type of sampling.

Subjective or judgmental sampling appears to be the most prevalent in current practice. The archivist applies subjective knowledge of the records and their possible use to weed or otherwise reduce the size of groups of records, often on a piece by piece basis. Both the records and the researchers are at the mercy of the archivist in this case. The collection may end up useless, and even if it does not, the researcher's uncertainty about what has been lost may never totally be allayed. However, in many cases, this is the only option if size reduction is imperative and a more functional collection is desired. Again, a caveat is necessary here. Good record keeping on the part of the appraisal and processing archivists, in the form of well-documented decisions written into the finding aid, will go a long way to aid anyone but the most exacting or suspicious of researchers.

Affholter's third form of sampling--probability--has the advantage of objectivity and relatively easy application to large amounts of records. Researchers who desire a precise description of the methods used to reduce the size of a collection and the reassurance that one archivist's subjective views were not applied to decimate "their" records, will be appeased. Archivists, conversely, will be able to document the reasons

behind size reduction (minimal research value, for example), as well as the method, be it through the use of random number tables or some other statistical option. As subjective review is no longer possible with the size of many of the collections created today, the statistically valid samples produced using probability sampling could result in a useful collection.

So, the question may not be whether to sample, but rather how to sample. Sampling techniques will depend on the type of records in questions, and it is valuable to remember that probability sampling is not necessarily the most useful sampling approach. What questions should the archivist ask when faced with records which have the potential to be sampled? A well-trained appraisal archivist should be able to identify these record types and to include the option of sampling in the initial appraisal. Only the archivist, using solid archival criteria, can decide what records should be sampled and how they should be sampled. Bulk is, of course, an immediate identifier, but should never be the only criterion used.

To determine whether records are eligible for sampling, the following appraisal questions could be asked:

1. What are the records?
2. Are they homogeneous--concerned with one function only and essentially similar in character--or are they individual and variable in nature?
3. Is it possible to retain the essence of the records through sampling?
4. What is the correlation between amount of research value and bulk?
5. What is the method of arrangement and organization?
6. Have the records been properly maintained?
7. Is the filing system adequate and consistent throughout?
8. What is the method of indexing?
9. Do ancillary sources of information exist?
10. What is the size of the body of records?
11. For what purpose would these records be sampled?

12. Will the records serve the user after sampling?
13. How will the user approach and access the holdings?
14. Are the records being retained for evidential or informational purposes or both?
15. Will anticipated use justify cost of storage?
16. What resources are available in the owner repository to appraise and process these records?
17. What is the trade-off between research value and resource allocation?
18. Are there any acceptable alternatives other than sampling?

It is clear that the archivist has a large responsibility in the face of possible records destruction. M. Reiger states that "determination of archival value is an act of judgment and therefore necessarily more or less subjective. But it is possible to minimize such subjectivity by defining the objectives and criteria of appraisal, i.e., by setting forth the standards of value in terms of which the appraiser makes his judgments." 6 The questions above can go a long way in supplying objectivity to the appraisal and sampling process. Dividing that somewhat forbidding list of questions into more manageable categories will, perhaps, further clarify the archivist's vital role in the initial decision for or against sampling.

Maynard Brichford's definition of records appraisal brings archival responsibilities into focus. Appraisal is

> ...a process that requires extensive staff preparation, a thorough analysis of the origin and characteristics of records series, a knowledge of techniques for the segregation and selection of records, an awareness of the development of research methodologies and needs, and a sequential consideration of administrative, research, and archival needs. 7

Using Brichford's three areas of

consideration--archival, research, and administrative needs--in a type of decision tree (Charts I, II, and III) can be useful.8

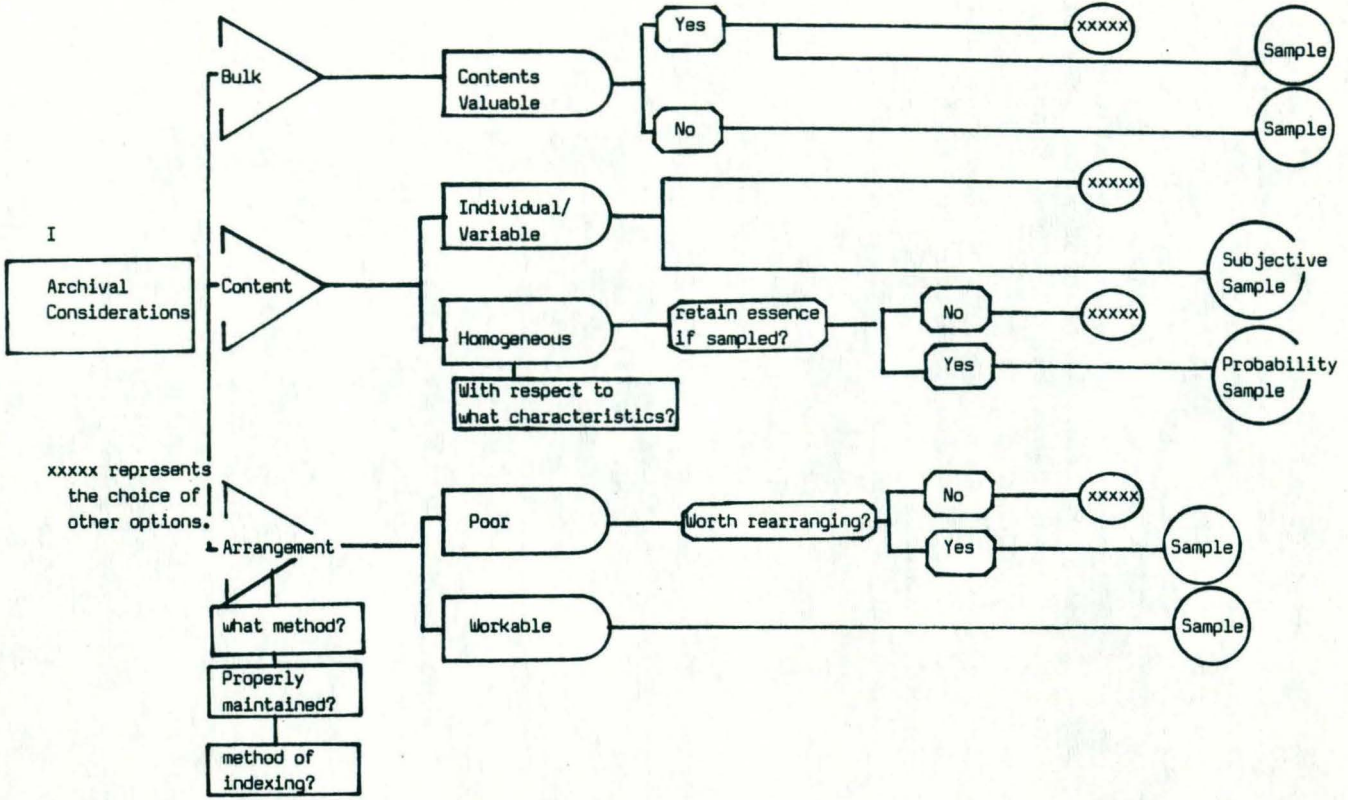
Ideally, archival considerations (see Chart I) should lead the list of questions, and the most obvious of those questions is that of the space requirements of the repository. Does the size of a collection make its acquisition questionable? Does sheer volume or bulk make sampling an option? A large collection may be very valuable, ruling out any but the most basic of weeding. Bulk is, however, a good indicator of sampling possibilities.

Then, the content of the records and their arrangement must be investigated. Is the content individualized and variable, making total retention or a subjective sample the option chosen? Or, are the records homogeneous in respect to important characteristics and will they retain their essence if sampled? If so, a probability sample, using random number tables or even retaining every nth item can be considered.

The records' arrangement is also an important consideration. By what method were they arranged? Was the arrangement properly maintained? How were the records indexed? If the arrangement is poor, are the records worth the amount of work necessary to process them before sampling? If the arrangement is workable, sampling still remains an option.

Indexing and cross referencing are an important subsidiary to arrangement. If the records were created with cross-referencing linkages, a probability sample would destroy that continuity, whereas a subjective sample could preserve them.

When standard archival appraisal techniques do not produce answers to this first set of questions, the second sampling option--sampling for appraisal--should be considered. A probability sampling, random selection of items or files following a statistical scheme, will supply the objective information needed to answer traditional appraisal questions. The Massachusetts Superior Court and the Federal Bureau of Investigation appraisal projects


I
Archival Considerations
Bulk
Content
Arrangement
Contents Valuable
Yes
No
xxxxx
Sample
Sample
Individual/ Variable
xxxxx
Subjective Sample
Homogeneous
retain essence if sampled?
No
xxxxx
Yes
Probability Sample
With respect to what characteristics?
xxxxx represents the choice of other options.
Poor
Worth rearranging?
No
xxxxx
Yes
Sample
Workable
Sample
what method?
Properly maintained?
method of indexing?

used this technique to determine both the types of records present and to gain some idea of potential historical value and research use.

The second crucial area of investigation is that of research use and historical value (see Chart II). First, the archivist must consider the existence of ancillary sources for the same information. Is it published elsewhere, can it be abstracted from other records, or is it available in a more usable form? What are the researcher's options?

The archivist must display concrete knowledge of the subject areas involved, current research use, and the records' expected future and potential use. There is a fine line between the value of a collection and its future use, but it may be important to differentiate here. If a collection or series has no identifiable value, perhaps it should be discarded in its entirety. This may alarm future researchers, so Affholter has identified the option of taking a tiny representative sample, merely to prove that the records were worthy of total destruction. 9 Does the value of the records justify the cost projected for storage, arrangement and description, sampling? A large series's research value may justify total retention. And, what if there is valuable material in the collection, but some doubt as to whether even that will encourage use?

Determination of the evidential and informational value of the records, as first defined by T.R. Schellenberg, 10 can aid the archivist in the search for research value. Records have evidential value if they contain significant documentation of the important activities, functions, policies, or procedures of the creator of the records. Informational value exists when the records contain important, often unique, information about individuals, events, organizations, things, and conditions. The Federal Bureau of Investigation Appraisal Team appraised records as worthy of permanent retention when they contained either value. 11 A subjective sample may be possible in these cases, but using probability sampling on records with

Research
Value/Use
-current
-intended
-anticipated
Value
Use
Ancillary sources of information
Yes
No
Sample
xxxxx
None
Value justify cost?
Representative (CYA) Sample
Yes
No
Sample
xxxxx
Evidential
Informational
Both
Subjective Sample
Sample
Qualitative
Quantitative
Amount of use justify cost?
Subjective Sample
Probability Sample
Both
Yes
No
Sample
xxxxx
Sample

considerable informational value, for example, often results in a useless body of records, because unique facts are permanently lost. It is here that subjectivity may come into play with the archivist deciding which unique information is of permanent value.

Leonard Rapport writes of the case files of the National Labor Relations Board (NLRB), 12 whose sample has not served the purpose for which it was taken. These "homogeneous" case files were sampled using a subjective method designed to retain records with evidential value. Research use, however, has been minimal. When researchers did request the records, they demanded informational value in the content. They wanted to study every case on a particular topic or the contents of specific transcripts and exhibits, not the workings of the NLRB itself, which was what was preserved in the sample as having evidential value. That information was already available, in part, in published form.

Will sampling improve research use and will the amount of use justify cost? Researchers doing quantifiable work will often take a probability sample themselves. Using a probability sample of case files to determine, for example, the ethnic distribution of welfare recipients appeals to some. Others, hoping to research an administrator's involvement in, for example, welfare fraud, would prefer to work with an undisturbed group of records or do qualitative work using a subjective sample. Should sampling be performed with the thought that there will be more users interested in quantitative, sociological studies or that a more individual, subjective approach will be used? Communication with potential users is vital.

Most sampling applications are of a more recent vintage than the NLRB example, and it is, therefore, too early to receive much in the way of researcher reaction. Felix Hull has observed an any sample is better than the retention of no papers at all attitude in users, but noted that other researchers would prefer to see the retention of a smaller number of complete series rather than fragments of many. 13 A

few American archivists have taken the position that they are aiding the researcher by reducing volume. Larry Steck and Francis Blouin state that "...good archival practice requires selectivity. Otherwise, the very best will become smothered in the mediocre and the worthless." 14 Eleanor McKay, too, feels that reduction in bulk makes the records more useful for the researcher. 15 And still other archivists, such as R. Joseph Anderson, see records with great potential going unused, but do not know why. 16 Is it because of their size or because of incorrect identification of research value?

Each collection will have its own historical value; it is up to the archivist to identify that value and promote use. Many interesting methods have been developed in projects where sampling is used as an appraisal method to determine what has alternately been called "criteria of significance," "criteria for research potential," and "historical interest variables," 17 but there is still no foolproof way to predict the research interest of future scholars.

The final area to investigate when considering sampling is that of the repository's resources and related administrative concerns (see Chart III). Reality definitely intrudes on theory here. What are the trade-offs between available space, budgetary, and staff resources, and potential research use? The archivist is inevitably caught between administrative and research needs. What are the short and long term advantages of storing, sampling, or microfilming the records in question? How does the archivist justify sampling and hiring a statistical consultant to the administrator who is supplying the necessary funding or a hostile history department that would prefer to see the entire collection preserved?

Political and contractual difficulties are often present. Does the archivist wish to offend a donor by implying that every item in the donated collection is not historically valuable and to write or rewrite a donation agreement to allow for disposal? Legal questions restricting use of case files because of privacy considerations, for example, may

III
Repository's Resources/ Administrative Needs
long/short term
Space
Budget
Staff
Legal/ Contractual/ Political considerations
Limited
Adequate
Limited
Adequate
Limited
Adequate
None
Yes
Retain all
Rewrite agreement
xxxxx
xxxxx
xxxxx
xxxxx
Sample
Sample
Sample
Sample
Sample
Sample

make the consideration of the use of sampling unnecessary, at least for the moment. Why expend resources on records which cannot be opened for research use? Postponement of processing or sampling may be a viable alternative and may also pass the decision for or against sampling on to a less fortunate successor. Each repository has its own individual concerns.

The final question for many archivists may be this: From where is the help necessary to answer these questions and then possibly to carry out a sampling plan going to come? This can and should come from four different sources. 18 Fellow archivists can assist in determining organization of records, sampling potential, and research value and may have prior sampling experience. Historians and other users can contribute information on historical interest and potential research use. Situations involving confidentiality, contract revision, or other sensitive questions may require legal advice. If sampling is not chosen because of the answers to these questions or if the sample is to be a subjective one, the archivist can stop here.

The fourth source of assistance and, perhaps, the most important when probability sampling appears to be a viable option, is that of the statistical consultant. All the information gathered from the archivist's preliminary appraisal work, from the answers to those questions, and from the first three sources should be synthesized and presented to this consultant, who will use the information and work with the archivist to formulate the problem in statistical terms. The consultant can then suggest a variety of methods with which to sample. In addition, he should develop a written plan, which documents the plan's statistical bases and will aid future quantitative researchers. "The important question is how many items should be saved to meet the requirements of saving as little as possible while also meeting those other constraints, with what level of risk." 19

Sampling options are many, but one which archivists should keep in mind is the use of

combinations. Statistically, this might not be the most valid method, as it usually combines some form of statistical sample with a subjective application, but it does have its advantages. An example of this is found in the Massachusetts Superior Court project's "fat file" theory of historical interest, 20 which , when used in addition to a random (probability) sample, provided for retention according to the size of the file. The project staff had determined that the fat file is one of the correct predictors of historical interest. The Federal Bureau of Investigation Records Appraisal Team gave it the more subdued name of "multi-section file theory." 21 Anderson presents another option to be used when dealing with case files, when he suggests that significant information from each file be selected and then a random sample of complete files also be preserved. 22 These options may not generate the degree of objectivity supplied by pure probability samples, but they do add a desired subjectivity.

The process involved in determining whether to sample appears to be somewhat complicated. Consider, however, some of the broad advantages accruing from the application of this technique. Sampling is well suited for application to records which are identifiably similar in form and content. It allows systematic investigation of the historical interest of the files and a means of predicting such interest from standard file characteristics, which can be analyzed. And, finally, even if the results of the archivists' investigation militates against probability sampling, that investigation creates information that will be useful in its own right. 23

What are the alternatives to sampling when, as is often the case, the results from the decision tree are not favorable? The first and most obvious is to preserve the whole collection or series. No doubt, if scholars were honest, this would be the preference of many. The option of postponement is also retention of the whole, but the possibility of reconsideration or reappraisal continues to exist.

A second alternative, touched upon above, is that of the use of combined methods. Addition of the

subjective reassures the archivists and historians who hope to retain specific information needed to flesh out the bare bones of a pure probability sample.

Yet another possibility is microphotography, especially where volume is the overriding consideration. Size reduction is considerable and no painful decisions about destruction need be made. On the other hand, microphotography is expensive, especially if the records are first processed to minimum archival standards. More importantly, the records' historical and research value does not change merely because they are on microfilm. If they had significant, consistent value throughout, the consideration of sampling would not have gotten very far. At the other end of the spectrum is the fact that microfilmed junk is still junk. Microfilming after sampling can always be considered.

A final alternative is that of automated data processing. As technology improves, this option should become more viable, and again, it can be combined with microphotography. However, depending on the original form of the records, this method can be very time-consuming and costly. 24

As archival sampling project reports continue to be published, similar comments and problems arise in each. Identification of these may both serve to improve future sampling projects and to further illuminate various aspects of sampling itself. These comments can be divided into two general categories: changes in archival thinking and theory, and improved archival efficiency.

The changes from Sir Hilary Jenkinson's statement that everything transferred from the creating agency must be kept, 25 to the development of appraisal as a crucial aspect of archival theory is an important one. Sampling, in some ways, can be identified as the third step in this development, if some generalization may be excused. Jenkinson recommended keeping everything regardless of value. Archivists who developed appraisal methodology recognized the existence of material with no permanent historical value. Proponents of statistical sampling know that the

application of that technique may well result in the destruction of unique and valuable historical material. This is a basic change in the purely custodial view which some archivists have had of themselves.

Another theoretical thread which runs through a few of the more advanced sampling schemes is the feeling that archivists should attempt to influence the creation of records that they will eventually receive. The format, the order and arrangement of the records, if influenced by archivists at their creation, may be more easily sampled at the time of their retirement. One of the questions asked during an investigation of sampling possibilities is whether the filing system itself was adequately thought out in the first place. Anderson suggested that it may be "...feasible to require that state welfare agencies use standardized, easily recognized forms," 26 for example. In an era in which some have repudiated the theory of original order, but in which the volume of the records often precludes changes in that order after receipt, influencing the arrangement at creation may also be a way to aid both the creator ad the archival repository.

The second area which demands consideration is that of improvement in archival competency and efficiency. The option of sampling is more easily researched with all the archival tools in place. Archivists may not want to "elevate" the profession to a science, but improvements in some areas are possible. One of the more crucial working documents in a repository's files should be a well-thought-out collection policy. This document in itself represents a sampling policy, as does the selection of those collections that will represent the areas defined in that policy. 27 It can aid archivists in justifying collecting, retention, and sampling.

Record keeping has long been one of the more haphazard, individual aspects of archival science. Archivists should begin to document all decisions, especially those relative to appraisal matters. Finding aids, which currently describe those records

which remain, should also identify the records which were discarded. Justification for sampling and the methodology used in the sampling scheme should appear in the finding aid. If the end choice after an investigation was not to sample, then the information that influenced that decision should also be retained. The need to document appraisal decisions may also force the archivist to learn methods that will assist him in gaining better knowledge of the records in a faster and more efficient manner.

Archivists should be able to correlate sampling decisions with complete user statistics. If good user records exist for currently held collections, these decisions would be infinitely easier to make. If repositories learn to conduct more complete exit interviews, old collections' gaps will be identified, and eventually, the feedback from post-sampling reaction will help to determine whether that sampling was worthwhile.

One aspect of sampling that cries out for standardization and more efficient application is that of terminology. Hull states that "terminology has tended to be less than precise and the whole question of the use of sampling has given rise to much uncertainty and some misgivings among archivists." 28 Statistical terminology can strike fear in the heart of many a numerophobic archivist. When this terminology is used incorrectly by archivists in their discussions of individual sampling projects and when those archivists' misinterpretation of statistical terminology causes the misapplication of sampling methodology, confusion reigns and the phobia grows. Perhaps the Society of American Archivists will add coherent definitions of some of these terms to its standard glossary.

Sampling can either be viewed as the archivist's last resort or as a possible technique to use in the face of growing collections and shrinking resources. If simple definitions and an easily followed methodology can be standardized within the profession, nevertheless recognizing the unique qualities of every group of records and every retention situation,

archivists will be more likely to consider the sampling option. Archivists should recognize that they sample, in the broader sense of the term, at almost every level of archival activity and in almost every type and size of collection.

Sampling can be considered in the context of the entire framework of archival theory. In fact, it may be viewed, in one form or another, as a necessary archival tool at all levels of archival work. The technique of sampling should not be viewed as a purely statistical method, but rather something that archivists do unconsciously every day. When statistical applications are employed, statistical validity should not be the only criterion used. Professional validity and, in fact, emotional validity may be the most important influences on the final product.

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NOTES

1 The author thanks the anonymous reporter who used this item in a slightly different context, in an untitled note, South Carolina Historical Magazine 67 (1966): 125.

2 Larry Steck and Francis Blouin, "Hannah Lay and Co.," The American Archivist 39 (1976); Eleanor McKay, "Random Sampling Techniques," The American Archivist 41 (1978).

3 Michael Hindus, et al., The Files of the Massachusetts Superior Court, 1859-1959 (Boston: G.K. Hall, 1979); Appraisal of the Records of the Federal Bureau of Investigation, microfiche (Washington, DC: National Archives and Records Service, 1981). Both these projects used sampling to determine the contents and types of files present. The end result was not necessarily reduced bulk, but rather information to assist standard appraisal decisions.

4 Dennis Affholter, "Probability Sampling in Archives" (Paper prepared for use at the Society of American Archivists Annual Meetings, Minneapolis, MN and Washington, DC, 1983, 1984), 13.

5 Ibid., 8.

6 M. Reiger, "Modern Records Retirement and Appraisal Practice," UJISLAA 1 (1979), quoted in Felix Hull, The Use of Sampling Techniques on the Retention of Records (Paris: UNESCO, 1981), 4. Reiger [sic?] uses "objectivity" here, but "subjectivity" more accurately reflects his intentions as further described in the text.

7 Maynard Brichford, "Archives and Manuscripts: Appraisal and Accessioning," Basic Manual Series (Chicago: Society of American Archivists, 1977), 2.

8 This decision tree can be used by archivists who need to set out the pros, cons, and options influencing their sampling decisions. The options given may be altered by any number of conditions, so the conclusions reached in this particular tree will not accurately reflect every archivist's situation. Items within the three sections of the tree do

overlap, but it was found too confusing and difficult to combine them into one flow chart.

9 Affholter, "Probability Sampling in Archives," (Handouts used at the Society of American Archivists Annual Meeting, Minneapolis, MN, 1983).

10 T. R. Schellenberg, Modern Archives (Chicago: University of Chicago Press, 1956), 140.

11 These definitions are adapted from Appraisal of the Records of the FBI, 3-3.

12 Leonard Rapport, "The Sad Case of the National Labor Relations Board Case Files," (Paper given at the Society of American Archivists Annual Meeting, Minneapolis, MN, 1983).

13 Hull, Use of Sampling Techniques, 29.

14 Steck and Blouin, "Hannah Lay and Co.," 20.

15 McKay, "Random Sampling Techniques," 281.

16 R. Joseph Anderson, "Public Welfare Case Records," The American Archivist 43 (1980): passim.

17 Paul Lewinson,"Archival Sampling,"The American Archivist 20 (1957): 4; Appraisal of the Records of the FBI, 3-3; Hindus, Files of the Massachusetts Superior Court, 6, passim.

18 Affholter, "Probability Sampling in Archives," 15.

19 Ibid., 20.

20 Hindus, Files of the Massachusetts Superior Court, 175.

21 Appraisal of the Records of the FBI, 3-9.

22 Anderson, "Public Welfare Case Records," 175.

23 Paraphrased and adapted from Hindus, Files of the Massachusetts Superior Court, 41.

24 Adapted and altered from Hull, Use of Sampling Techniques, 42-43; and Anderson, "Public Welfare Case Records," passim.

25 Hilary Jenkinson, Manual of Archive Administration (London: Percy Lund, Humphries and Co., Ltd., 1963), 149.

26 Anderson, "Public Welfare Case Records," 175.

27 Affholter, "Probability Sampling in Archives," 4.

28 Hull, Use of Sampling Techniques, ii.